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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Koichiro NAKAMURA, et al.
Serial No. Application of 09/963,554
Filed: September 27, 2001
For: ADHESIVE COMPOSITION AND OPTICAL DEVICE USING THE SAME

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

D E C L A R A T I O N

I, Koichiro Nakamura, am one of the inventors of the present invention, finished the doctor's course in synthetic chemistry at the Faculty of Engineering of Kyushu University in March 1991, joined Nippon Sheet Glass co., Ltd. in April 1991 to work on the research of sol-gel coatings at one of the company's research laboratories since April 1993 and then the research of adhesives for optical use starting from 2000.

I have conducted the following experiments to demonstrate that excellent heat resistance is obtained by the present invention unlike USP No. 6187890 cited in the above Official Action.

Experiments

The heat resistance of an adhesive composition was measured by the following method similar to the adhesive strength measuring method described in Examples of the present application.

100 mg of an adhesive composition was dropped on a first

slide glass plate, a second slide glass plate was placed upon the first slide glass plate immediately to spread the adhesive composition to a size of 25 x 25 mm, the adhesive composition was maintained at room temperature for 24 hours and then at 200°C for 1 hour, and the glass plates on both sides of the adhesive layer were pulled in opposite directions by a tensile tester at a rate of 50 cm/min while the temperature was maintained at 100°C in order to measure bonding strength (shear strength) (N/mm²).

The above measurement was made on the adhesive compositions of Examples 1 and 3-5 of the present application and also on an adhesive composition obtained by reworking Example 6 of USP No. 6187890 as Comparative Example A. Although pyrogenic silica (silica particles) was used as a filler in Example 6 of USP No. 6187890, it was not used in the optical adhesive material of the present invention because it impairs transparency.

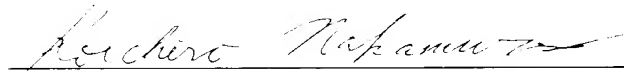
The measurement results of adhesive strengths of these adhesive compositions at 100°C are shown in the following reference table. As shown in the table, it can be understood that high heat resistance was obtained in the present invention whereas high resistance was not obtained in Example 6 (Comparative Example A) of USP No. 6187890.

Reference Table

	Shear strength (N/mm ²)
Example 1	7
Example 3	5
Example 4	5
Example 5	6
Comparative Example A	3

The undersigned declarant further declares that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of the application or any patent issuing thereon.

The 20th day of January, 2003

A handwritten signature in cursive script, appearing to read "Koichiro Nakamura", is written over a horizontal line.

Koichiro NAKAMURA